

## **CLAIMS:**

What is claimed is:

1. A vehicle having a longitudinal axis between a front and rear of the vehicle such that a lateral direction is defined perpendicular to the longitudinal axis, comprising:
  - a side impact crash sensor for detecting a lateral force or acceleration applied to a side of the vehicle;
  - transfer means interposed between the side of the vehicle and said sensor for transferring the lateral force applied to the side of the vehicle to said sensor; and
  - an occupant restraint device connected to said sensor and arranged to deploy an occupant restraint based on the force or acceleration detected by said sensor.
2. The vehicle of claim 1, wherein said transfer means are arranged to adjust for mismatch between a point of impact of an object on the side of the vehicle and said sensor.
3. The vehicle of claim 2, wherein said transfer means comprise a plate capable of remaining substantially undistorted in form upon application of the lateral force to the side of the vehicle.
4. The vehicle of claim 3, further comprising a main structural beam, said plate being mounted to said main structural beam.
5. The vehicle of claim 4, further comprising a door, said main structural beam being arranged in said door
6. The vehicle of claim 3, wherein said plate is circular.
7. The vehicle of claim 3, further comprising a door having an inner panel and an outer panel, said plate being located between said inner panel and said outer panel.

8. The vehicle of claim 1, further comprising a main structural beam, said transfer means being mounted to said main structural beam.

9. The vehicle of claim 8, further comprising a door, said main structural beam being arranged in said door

10. The vehicle of claim 1, further comprising a door having an inner panel and an outer panel, said transfer means being arranged between said inner panel and said outer panel.

11. A vehicle having a longitudinal axis between a front and rear of the vehicle such that a lateral direction is defined perpendicular to the longitudinal axis, comprising:

a side impact crash sensor for detecting a lateral force or acceleration applied to a side of the vehicle;

mismatch adjustment means interposed between the side of the vehicle and said side for adjusting for mismatch between a point of impact of an object on the side of the vehicle and said sensor; and

an occupant restraint device connected to said sensor and arranged to deploy an occupant restraint based on the force or acceleration detected by said sensor.

12. The vehicle of claim 11, wherein said mismatch adjustment means are arranged to transfer the lateral force applied to the side of the vehicle by the object to said sensor.

13. The vehicle of claim 11, wherein said mismatch adjustment means is a plate capable of remaining substantially undistorted in form upon application of the lateral force to the side of the vehicle.

14. The vehicle of claim 13, further comprising a main structural beam, said plate being mounted to said main structural beam.

15. The vehicle of claim 14, further comprising a door, said main structural beam being arranged in said door

16. The vehicle of claim 13, wherein said plate is circular.

17. The vehicle of claim 13, further comprising a door having an inner panel and an outer panel, said plate being located between said inner panel and said outer panel.

18. The vehicle of claim 11, further comprising a main structural beam, said mismatch adjustment means being mounted to said main structural beam.

19. The vehicle of claim 18, further comprising a door, said main structural beam being arranged in said door

20. The vehicle of claim 11, further comprising a door having an inner panel and an outer panel, said mismatch adjustment means being arranged between said inner panel and said outer panel.

21. A vehicle having a longitudinal axis between a front and rear of the vehicle such that a lateral direction is defined perpendicular to the longitudinal axis, comprising:

a side impact crash sensor for detecting a lateral force or acceleration applied to a side of the vehicle;

a transfer device interposed between the side of the vehicle and said sensor suitable for transferring a lateral force applied to the side of the vehicle by an object to said sensor; and

an occupant restraint device connected to said sensor and arranged to deploy an occupant restraint based on the force or acceleration detected by said sensor.

22. The vehicle of claim 21, wherein said transfer device is arranged to adjust for mismatch between a point of impact of an object on the side of the vehicle and said sensor.

23. The vehicle of claim 22, wherein said transfer device comprises a plate capable of remaining substantially undistorted in form upon application of the lateral force to the side of the vehicle.

24. The vehicle of claim 23, further comprising a main structural beam, said plate being mounted to said main structural door beam.

25. The vehicle of claim 24, further comprising a door, said main structural beam being arranged in said door

26. The vehicle of claim 23, wherein said plate is circular.

27. The vehicle of claim 23, further comprising a door having an inner panel and an outer panel, said plate being located between said inner panel and said outer panel.

28. The vehicle of claim 21, further comprising a main structural beam, said transfer device being mounted to said main structural beam.

29. The vehicle of claim 28, further comprising a door, said main structural beam being arranged in said door

30. The vehicle of claim 21, further comprising a door having an inner panel and an outer panel, said transfer device being arranged between said inner panel and said outer panel.